

In re Application of:
Jay M. Short
Application No.: 09/835,096
Filed: April 12, 2001
Page 19 of 21

PATENT
Attorney Docket No. INVIT1250-5

REMARKS

Claims 1-84 are pending in the present application. Claims 51-59 are canceled herein, without prejudice or disclaimer. Claims 85-93 have been added in the present Amendment. Upon entry of the present amendments, claims 1-50, and 60-93 will be pending.

Newly added claim 85 is supported, for example, by page 53, lines 8-10, which indicate that the rare nucleotide is present at 5% of positions, and by page 59, lines 12-13, for example, which indicate that the nucleotide that is bound to the linker is uridine. Newly added claim 86 is supported, for example, by page 59, first paragraph. Newly added claim 87 is supported, for example, by page 57, first full paragraph and Figure 4. Newly added claim 88 is supported, for example, by page 61, top paragraph. The assertion in newly added claim 89 that the linkers are linked to both the agent and the scaffolding component at a 5-position of a uracil moiety of a uridine residue is supported by page 26, first paragraph. The assertion in claim 89 that there are 2 linkers and 2 agents is supported by Example 2, which indicates that the central 36 core positions include 1 rare base containing a linker at a frequency of 5%, thus providing for 2 rare nucleotides per complex. Furthermore, Example 3 indicates that these nucleic acid subunits were reacted with threonine to form complexes, thereby forming complexes with two threonine residues. Newly added claim 90 is supported, for example, by Example 4, which illustrates methods for identifying complexes that bind a thrombin target. Newly added claim 91 is supported, for example, page 28, third full paragraph. Newly added claim 92 is supported, for example, by Examples 2 and 3. Newly added claim 93 is supported by Example 3 and figure 4, from which one of ordinary skill in the art will identify the carboxyl group of threonine as a reactive species that can be bound to a linker.

Applicant elects with traverse, Group I, Claims 1, 3-26, 28-29, 31-48, and 77, drawn to a method for identifying a complex (a morphatide) from a library of complexes (morphatides), wherein the morphatide includes a scaffolding component, a linker component, and an agent molecule, classified in class 435, subclass 7.1. Furthermore, regarding a scaffold species elections, Applicant elects, with traverse, a nucleic acid scaffold having a 5' and 3' flanking region with a sequence as set out in SEQ ID NOs:1 and 2 and a randomized middle sequence of 36 nucleotides that includes 3 of

In re Application of:
Jay M. Short
Application No.: 09/835,096
Filed: April 12, 2001
Page 20 of 21

PATENT
Attorney Docket No. INVIT1250-5

the 4 bases occurring at similar frequency and one of the four bases occurring at a rare frequency of 5% (i.e. 2 positions). Regarding the number and type of linker, Applicant elects, with traverse, two identical linkers that are formed by reacting phenylboronic acid with salicylhydroxamic acid, each linker being bound to a uridine residue on the scaffold through a 5-position of a uracil base of the uridine residue. Regarding the number and type of agents, Applicant elects, with traverse, two threonine residues each bound to a linker through a carboxyl group on each of the threonine molecules. Regarding a target, Applicant elects, with traverse, a thrombin target. Regarding the type of interaction, Applicant elects, with traverse, a morphatide that binds to, or associates with an agent. Regarding a method for separation, Applicant elects, with traverse, chromatography.

Applicant asserts that pending claims 1, 3-26, 28-29, 31-48, and 77, and newly added claims 85-93 are read on by the elected group and species. Therefore, Applicant respectfully requests consideration and examination of these claims.

Applicants respectfully request rejoinder of Group 4 with Group I. It would not be an undue burden on the Examiner to search Groups 4, which includes additional steps related to separating and combining scaffolding components using sexual PCR, with Group I.

With respect to the requirement to elect a particular sequence of the nucleic acid scaffold, Applicant respectfully asserts that such a restriction is not proper because claim 1 is drawn to methods that include preparing a *library* of morphatides that each have a scaffolding component with one or more regions of randomized sequence. Therefore, it is not possible to elect a specific and complete nucleotide sequence of a single scaffolding component. Accordingly, Applicant respectfully requests that the Examiner consider the present Amendment responsive even though a complete nucleotide sequence of a scaffolding component is not elected. Rather, the present Response elects portions of the nucleotide sequence of the scaffolding component (i.e., SEQ ID NO:1 and SEQ ID NO:2) and particular arrangement of nucleotides within the scaffolding component that are present in each member of the library in certain embodiments of the invention.

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Page 21 of 21

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Regarding the traversal of the species elections, Applicant respectfully asserts that the Office Action incorrectly analyzes the claims of Group I as if they were claims directed at morphatides, rather than claims directed at methods for identifying morphatides. The recited species have identical operation, function, and effect in the recited methods claims. Therefore, the species should not be restricted.

In view of the amendments and the above remarks, it is submitted that the claims are in condition for allowance and a notice to that effect is respectfully requested. The Examiner is invited to contact Applicant's undersigned representative if there are any questions relating to this application. Please charge any additional fees, or make any credits, to Deposit Account No. 50-1355.

Respectfully submitted,



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